

REMARKS

Applicants respectfully request favorable reconsideration of this application in light of the following remarks. Claims 19-52 are currently pending. Claims 19 and 27 have been amended by the present Amendment. Claims 51-52 are new. No new matter has been added.

Applicants thank Examiner Levkovich and Supervisory Examiner Warden for the courtesy extended to Applicants' representative, Timothy Hsieh, during the examiner interview conducted on July 28, 2005.

In the Office Action, the Examiner rejected claims 49-50 under 35 U.S.C. § 112, second paragraph, as being unclear; rejected claims 19-22, 27, and 29-50 under 35 U.S.C. § 102 as anticipated by U.S. Patent No. 5,601,141 to Gordon et al. ("Gordon et al."); and rejected claims 25-26 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Gordon et al. Applicants respectfully traverse these rejections for the reasons discussed below.

Rejection of Claims Under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 49-50 under 35 U.S.C. § 112, second paragraph, as being unclear for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. In particular, the Examiner stated that the criteria is not clear for "the temperature difference between adjacent segments is less than a predetermined temperature difference (ΔT)."

The second paragraph of 35 U.S.C. § 112 requires that one of ordinary skill in the art be able to tell with a reasonable degree of certainty whether his or her conduct is

within or outside the scope of a claim. See *In re Borkowski*, 422 F.2d 904, 909; 164 U.S.P.Q. 642, 645-6 (C.C.P.A. 1970). Claims 49 and 50 recite that the temperature difference between adjacent segments is less than a predetermined temperature difference. That segments can be actuated with different temperatures would be understood by one of ordinary skill in the art and is clearly taught in the specification. Moreover, the specification further teaches that temperatures can be controlled such that the temperature difference ΔT between the segments is less than a predetermined value K, where K is chosen based on the quality of thermal decoupling of the segments. For example, K can be from 5° to 15°C. (Page 8, line 28 to page 9, line 2.) Thus, Applicants submit that one of ordinary skill in the art would be able to tell when the temperature difference between adjacent segments is less than a predetermined temperature difference ΔT as recited by claims 49-50.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims under 35 U.S.C. § 112, second paragraph.

Rejection of Claims Under 35 U.S.C. § 102

The Examiner rejected claims 19-22, 27, and 29-50 under 35 U.S.C. § 102 as anticipated by Gordon et al.

Claim 19 recites a device including, *inter alia*, a reaction vessel receiving element, wherein the reaction vessel receiving element is configured to receive one microtiter plate. Claim 19 further recites that the reaction vessel receiving element is divided into several segments, wherein each segment comprises a portion of the microtiter plate. Claim 19 also recites that each segment is assigned one of the heating

devices, and that the heating devices may be actuated independently of one another.

Claim 19 also recites that the individual segments are thermally decoupled in such a way that different temperature levels may be set and maintained in two adjacent segments.

In contrast, as noted by the Examiner in paragraph 4 of the Office Action, Gordon et al. disclose a device "adapted to heat and cool sixteen standard micro-titration plates." (Col. 3, lines 31-32.) The sixteen standard micro-titration plates P are placed on "base 12 [which] supports an array of sixteen modules 14 that in turn each carry one of the plates P." (Col. 3, lines 38-39.) (Emphasis added). In other words, each "module" accepts one standard micro-titration plate. Nowhere does Gordon et al. disclose or suggest that the "modules" (which each accept one microtiter plate) can be divided into segments that are individually controlled. This reference further fails to disclose or suggest that modules can be divided into segments that are thermally decoupled.

Moreover, Gordon et al. fails to disclose or suggest a reaction vessel receiving element: 1) that is divided into several segments, wherein each segment comprises a portion of the microtiter plate; 2) in which each segment is assigned one of the heating devices, and in which the heating devices may be actuated independently of one another; and 3) in which the individual segments are thermally decoupled in such a way that different temperature levels may be set and maintained in two adjacent segments. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims under 35 U.S.C. § 102. Applicants submit that claim 19 is in

condition for allowance, as are claims 20-50 at least by virtue of their dependency from allowable claim 19.

Rejection of Claims Under 35 U.S.C. § 103

The Examiner rejected claims 25-26 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Gordon et al. The Examiner recognized that Gordon et al. fails to disclose or suggest a thermal insulator other than air. The Examiner, however, alleged that it would have been obvious to one of ordinary skill in the art to employ a variety of thermal insulators between the segments having a coefficient of thermal conductivity higher or lower than the coefficient of air. Applicants respectfully disagree.

As a preliminary matter, as discussed above, Gordon et al. fails to disclose or suggest dividing the reaction vessel receiving element into segments. The reference only discloses a plurality of "modules" where each module supports one standard microtitration plate (microtiter plate or tray). Thus, this reference fails to disclose or suggest thermally decoupled segments.

Moreover, Gordon et al. fails discloses only air as a thermal insulator because the disclosed thermal cycler focuses on "modularity" and easy of replacing individual modules. For example, at col. 6, lines 42-54, Gordon et al. discloses that if there is a malfunction, "screws 26 are removed allowing the module to be replaced with a simple pulling movement away from the base 12." Gordon et al. further states, at col. 6, lines 57-59, that the "modularity of the present invention thus facilitates repair of the cycler." Because inclusion of an insulator between the modules of Gordon et al. would have interfered with the stated goals of modularity and ease of replacing modules, Applicants

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submit that Gordon et al. actually teaches away from employing an insulator between segments as claimed by Applicants.

Applicants submit that Gordon et al. fails to suggest a thermal insulator other than air as recited in claims 25-26 and 28. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims under 35 U.S.C. § 103.

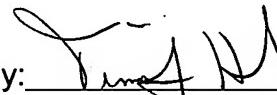
Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration of this application and the allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 50-2961.

Respectfully submitted,

Dated: August 26, 2005

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